Flame

Flammable (aerosol)

Definition - A non-refillable receptacle containing a gas compressed, liquefied or dissolved under pressure with a release device allowing the contents to be ejected as particles in suspension in a gas, or as a foam, paste, powder, liquid or gas. Aerosols are classified as flammable if they contain a component which is a flammable liquid, gas, or solid.
Examples: spray paint; lubricant with propane as the propellant

Flammable (gas)

Definition - A gas having a flammable range with air at 20°C (68°F) and a standard pressure of 101.3 kPa (14.7 psi).
Examples: hydrogen; ethylene; propane

Flammable (liquid)

Definition - A liquid having a flash point of not more than 93°C (199.4°F). *Flash point* means the minimum temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.
Examples: pentane; toluene; acetone

Flammable (solid)

Definition - A solid which is a readily combustible solid, or which may cause or contribute to fire through friction. *Readily combustible solids* are powdered, granular, or pasty chemicals which are dangerous if they can be easily ignited by brief contact with an ignition source, such as a burning match, and if the flame spreads rapidly.
Examples: cerium; lutetium; neodymium

Self Reactives

Definition – Thermally unstable liquid or solid substances or mixtures liable to undergo a strongly exothermic decomposition even without oxygen (air). In laboratory testing the formulation is liable to detonate, to deflagrate rapidly or to show a violent effect when heated under confinement.
Examples: hydrazine-trinitromethane; 3-azidosulfonylbenzoic acid; acetaldehyde; ethyl acrylate

Pyrophorics

Definition - A liquid or solid, which, even in small quantities, is liable to ignite within five minutes after coming into contact with air.
Examples: (liquids) silane; diborane; phosphine; arsine; and (solids) white phosphorous; potassium hydride; super fine metal powders, such as iron or aluminum

Self-heating

Definition - A solid or liquid chemical, which, by reaction with air and without energy supply, is liable to self-heat. This chemical differs from a pyrophoric liquid or solid in that it will ignite only when in large amounts (kilograms) and after long periods of time (hours or days).
Self-heating of a substance or mixture is a process where the gradual reaction of that substance or mixture with oxygen (in air) generates heat. If the rate of heat production exceeds the rate of heat loss, then the temperature of the substance or mixture will rise which, after an induction time, may lead to self-ignition and combustion.
Examples: magnesium (powder or turnings); sodium dithionite; dry zirconium powder

Emits Flammable Gas

Definition: solid or liquid chemicals which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.
Examples: alkali metals (e.g., lithium, sodium); calcium carbide

Organic Peroxides

Definition - A liquid or solid organic chemical which contains the bivalent -0-0- structure, where one or both of the hydrogen atoms have been replaced by organic radicals. Organic peroxides are thermally unstable chemicals, which may undergo exothermic self-accelerating decomposition. In addition, they may have one or more of the following properties: be liable to explosive decomposition, burn rapidly, be sensitive to impact or friction, react dangerously with other substances
Examples: diethyl ether; acetyl benzoyl peroxide; methyl ethyl ketone peroxide

Flame Over Circle

Oxidizer (gas)

Definition - *A* gas which causes or contributes to the combustion of other material more than air does. Oxidizers generally increase combustion by providing additional oxygen.
Examples: chlorine; nitrous oxide

Oxidizer (liquid)

Definition - A liquid, which, while in itself not necessarily combustible, causes or contributes to the combustion of other material.
Examples: perchloric acid; nitric acid

Oxidizer (solid)

Definition - A solid, which, while in itself not necessarily combustible, causes or contributes to the combustion of other material.
Examples: sodium hypochlorite; potassium dichromate; ammonium chlorate

Exclamation Mark

Irritant (skin)

Definition – A non-corrosive substance that causes a reversible damage to the skin following application of a test substance for up to 4 hours
Example: ammonia

Irritant (eye)

Definition –Production of changes in the eye following the application of a test substance to the anterior surface of the eye which are fully reversible within 21 days of the application/exposure. Serious eye damage is damage that is not reversible within 21 days.
Example: benzoyl peroxide

Dermal Sensitizer

Definition – A substance that causes an allergic reaction following skin contact after repeated exposure.
Examples: epoxy resins

Acute Toxicity (harmful)

Definition – Chemicals causing adverse effects following oral or dermal administration of a single dose of a substance, or multiple doses given within 24 hours (oral) or 4 hours (inhalation). This group requires higher doses than the severe acute group.
Examples: acetic acid; ammonia; hydrogen sulfide; nitrogen dioxide

Narcotic Effects

Definition – Substance causing central nervous system depression including drowsiness, narcosis, reduced alertness, loss of reflexes, lack of coordination, and vertigo.
Example: nitrous oxide

Respiratory Tract Irritation

Definition – Irritant effects characterized by local redness, edema, desire to scratch and/or pain, impaired function. Symptoms such as cough, pain, choking, breathing difficulties.
Example: acetaldehyde; ammonia; styrene

Exploding Bomb

Explosives

Definition - A solid or liquid chemical which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.
Examples: picric acid; nitroglycerin; ammonium nitrate

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Examples: hydrazine-trinitromethane; acetaldehyde; ethyl acrylate

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decomposition, burn rapidly, be sensitive to impact or friction, react dangerously with other substances
Examples: diethyl ether acetyl benzoyl peroxide; and methyl ethyl ketone peroxide

Corrosion

Corrosive (to metal)

Definition – A chemical which by chemical action will materially damage, or even destroy, metals.
Examples: sulfuric acid; phosphoric acid; nitric acid

Corrosive (to skin, eyes, and respiratory)

Definition – A substance that causes irreversible damage to the skin (necrosis through the epidermis [outer layer] and into the dermis. Corrosive reactions are typified by ulcers, bleeding, bloody scabs, blanching of the skin, loss of skin pigments, and scars.
Examples: acids (e.g., sulfuric acid); bases (e.g., sodium hydroxide)

Gas Cylinder

Gases Under Pressure

Definition – Gas in a receptacle at a pressure of 200 kPa (29 psi) (gauge) or more. This group includes compressed gases, liquefied gases, dissolved gases and refrigerated liquefied gases. **Note**: All employees who use compressed gases must complete Compressed Gas Safety Training.
Examples: nitrogen; acetylene; compressed air

Health Hazard

Carcinogen

Definition – A material that induces or increases the incidence of cancer, where the substance is recognized as a cancer-causing agent by one of the following agencies:

- International Agency for Research on Cancer (IARC)
- National Toxicology Program (NTP)
- Occupational Safety and Health Administration (OSHA)
- American Conference of Governmental Industrial Hygienists (ACGIH)

Examples: asbestos; benzene; vinyl chloride

Respiratory Sensitizer

Definition – A substance that leads to hypersensitivity of the airways following inhalation of the chemical after repeated exposure.
Example: toluene diisocyanate

Reproductive Toxicity

Definition –Chemicals that have an adverse effect on sexual function and fertility in adult males and females or adverse effects on the development of the offspring, or chemicals that are absorbed by women and have been shown to interfere with lactation or be present in breast milk in amounts sufficient to cause concern for the health of a breastfed child.
Examples: lead; 2-butoxyethanol

Target Organ Toxicity

Definition – Toxins that produce injury or illness (reversible or irreversible; immediate or delayed) to a specific organ of the body after a single or repeated exposure by oral, dermal or inhalation.
Examples: carbon tetrachloride (liver); mercury (nervous system); carbon monoxide (blood); silica, asbestos (lung)

Mutagenicity

Definition –Material causing a mutation (permanent change) in the amount or structure of the genetic material in a cell. Includes substances know or that possibly induce heritable mutations in the germ cells of humans.
Examples: ethidium bromide; ethylnitrosourea; bromine; nickel

Aspiration Toxicity

Definition –A liquid or solid that enters directly through the oral or nasal cavity, or indirectly from vomiting, into the trachea and lower respiratory

tract. Severe effects such as chemical pneumonia, injury or death. Aerosol & mists products are usually dispensed in containers such as self-pressurized containers and pump sprayers- in a manner that may form a pool of product in the mouth which may then be aspirated.
Examples: kerosene; gasoline

Skull and Crossbones

Acute Toxicity (severe)

Definition – Chemicals that have severe adverse effects following oral or dermal administration of a single dose of a substance, or multiple doses given within 24 hours, or an inhalation exposure of 4 hours.
Examples: phosgene; methyl isocyanate